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| APPLICATION NO.                         | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 08/857,273                              | 05/16/1997  | PETER A. RONZANI     | KPN93-09ACAF        | 3991             |
| 21005                                   | 7590        | 12/29/2005           | EXAMINER            |                  |
| HAMILTON, BROOK, SMITH & REYNOLDS, P.C. |             |                      | WU, XIAO MIN        |                  |
| 530 VIRGINIA ROAD                       |             |                      | ART UNIT            |                  |
| P.O. BOX 9133                           |             |                      | PAPER NUMBER        |                  |
| CONCORD, MA 01742-9133                  |             |                      | 2674                |                  |

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                                       |  |
|------------------------------|--------------------------------------|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>08/857,273 | <b>Applicant(s)</b><br>RONZANI ET AL. |  |
|                              | <b>Examiner</b><br>XIAO M. WU        | <b>Art Unit</b><br>2674               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21,23-29,32-36,38-40,42-48,51-55,57,58,86-93,98,99,101,102,104,105 and 107 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**Continuation of Disposition of Claims:** Claims pending in the application are 21,23-29,32-36,38-40,42-48,51-55,57,58,86-93,98,99,101,102,104,105 and 107.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/21/2005 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 21, 23-28, 32-36, 38-40, 42-47, 51-55, 57-58, 87-89, 91-93, 98-99, 101-102, 104-105 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohnsorge (U.S. Patent No. 5,485,504), Spitzer (WO 93/18428) and Nathanson (U.S. Patent No. 4,010,322).

As to claim 21, 25, 28, 32, 33, 39, 40, 44, 51, 52, 58, 104-105, Ohnsorge discloses a portable communication device (or a video-telephone housing) comprising: a portable housing (Figs. 1-2); a central processing unit (5, Fig. 10); a wireless receiver (col. 2, lines 26-27) within the housing for receiving audio-video data; a display module (e.g. LCD 6) attached to the housing; It is noted that Ohnsorge does not specifically disclose that the liquid crystal display

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having an active matrix circuit, a light source for backlighting the display panel, a display driver circuit and a battery carried by the telephone housing for powering the transceiver, the receiver, the display, the light source, and the display driver circuit.

Spitzer is cited to teach an active matrix display device includes a display driver for driving the display panel and a light source for providing red, green and blue backlight to the display panel.

Nathanson is cited to teach a portable telecommunicator device which comprises a power supply (30) for powering the display, transceiver, receiver, light source and circuit within the housing. Nathanson further discloses a lens being located in front of the display for enlarging the display image.

It would have been obvious to one of ordinary skill in the art to have used an active matrix liquid crystal of Spitzer for the liquid crystal display of Ohnsorge because the active matrix liquid crystal display can provide sharper image than the regular liquid crystal display (e.g. passive type LCD).

Furthermore, it would have been obvious to one of ordinary skill in the art to have modified Ohnsorge with the features of the power source and lens as taught by Nathanson so as to provide a mobile function of the telephone unit and to view an enlarge image from a small portable display device..

With respect to the newly added claims 87-89, 91-93, 95-97, it would have been obvious to have used different kinds of sensors in the head-mounted display device of Schoolman as modified because they can provide work related data to the user.

As to claims 24, 43, Spitz discloses that the display device is head mounted display.

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As to claims 34, 53, Spitz discloses the display panel has an array of transistors that is formed with a silicon-on-insulator (SOI) structure (Figs. 30A-30B).

As to claims 35, 54, it would have been obvious to include a reflector positioned around the light source so as to maximize the light intensity.

As to claims 36, 55, Spitz discloses that the display is a head-mounted display which would be a small size of the display (see page 3, lines 26-33).

As to claim 38, 57, it is well known in the art to use a flexible ribbon cable for connecting the housing and the display module.

As to claim 45, Spitz discloses the display pixel lines could be 400 lines.

As to claims 27, 46, the cholesteric liquid crystal element is well known liquid crystal materials for use in LCD display device.

As to claims 101-102, Spitz discloses an imaging device (e.g. CCD for tracking the eyes) coupled to the housing.

4. Claims 29, 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohnsorge (U.S. Patent No. 5,485,504) in view of Spitzer (WO 93/18428) and Nathanson (U.S. Patent No. 4,010,322) as applied to claims 21 and 40 above, and further in view of Shennib (US Patent No. 5,197,332).

As to claims 29 and 48, it is noted that Ohnsorge, Spitz and Nathanson do not disclose a port coupled to the housing for receiving a memory card. Shennib is cited to teach headset communication device including a port coupled to the housing for receiving a memory card (25, Figs. 1a and 1). It would have been obvious to one of ordinary skill in the art to have modified

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Ohnsorge as modified with the memory card within the housing as taught by Shennib so as to receive external information data.

5. Claims 86, 90, 94 and 107 are re rejected under 35 U.S.C. 103(a) as being unpatentable over Ohnsorge (U.S. Patent No. 5,485,504) in view of Spitzer (WO 93/18428) and Nathanson (U.S. Patent No. 4,010,322) as applied to claims 21, 23-29, 32-36, 38-40, 42-48, 51-55, 57-58, 87-89, 91-93, 98-99, 101-102, 104-105 above, and further in view of Suzuki (EPA 0 551 781 A1).

Note the discussion of Ohnsorge, Spitzer and Nathanson above. Spitzer further discloses that the display could be used as a head-mounted display. Thus, it would have been obvious to one of ordinary skill in the art to have combined Ohnsorge's wireless audio-video portable display device into a head-mounted display as taught by Spitz because the head-mounted would provide a hands free display device. Furthermore, it is noted that Ohnsorge, Spitzer and Nathanson do not disclose a servo for allowing adjustment of the position of the display relative to a user eyes. Suzuki is cited to teach a head mounted display device similar to Schoolman. Suzuki discloses a servo ( Fig. 1) for allowing adjustment of the position of the display relative to a user's eyes. It would have been obvious to one of ordinary skill in the art to have modified Ohnsorge as modified with the features of the servo as taught by Suzuki because Suzuki's head mounted display can be fitted into different users.

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***Response to Arguments***


6. Applicant's arguments with respect to claims 21, 23-29, 32-36, 38-40, 42-48, 51-55, 57-58, 86-93, 98-99, 101-102, 104-105, 107 have been considered but are moot in view of the new ground(s) of rejection.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to XIAO M. WU whose telephone number is 571-272-7761. The examiner can normally be reached on 6:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, PATRICK EDOUARD, can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

X.W.  
December 23, 2005

  
**XIAO M. WU**  
**Primary Examiner**  
**Art Unit 2674**